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## ABSTRACT

A new approach to the initial preparation and continuing professional development of trade and industrial (T&I) teachers is appropriate because the majority of secondary T&I teachers have not completed teacher education programs. To accommodate the needs of individuals desiring to become T&I teachers and the needs of the schools, the new system should incorporate these characteristics: both preservice and inservice teacher education in a field-based format; an instructional or modular approach to instruction; use of a trainer of trainers approach to delivery; formal system of mentoring; awarding of credit for demonstrated technical expertise; collaboration among selected colleges, community colleges, secondary vocational centers, and business and industry; pedagogical and technical skills as required components of teacher preparation; and multiple levels of licensure and add-on endorsements. Attention should be given to the initial needs of three groups who are preparing or are T&I teachers: graduates of approved teacher education programs; graduates of appropriate content areas; and nondegreed technicians, practitioners, and specialists. Proposed changes to licensure/endorsement are as follows: three levels of licensure (probationary, professional, and master); two levels of endorsements (general cluster and technical speciality); and add-on endorsements. (YLB)

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# A REVISED APPROACH TO THE PROFESSIONAL DEVELOPMENT AND LICENSURE OF SECONDARY T&I TEACHERS<sup>1</sup>

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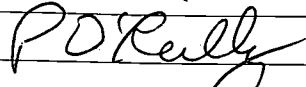
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## Background

Traditionally, the majority of individuals preparing to teach T&I subjects in secondary schools have not completed teacher education programs similar to those designed to prepare teachers of academic subjects. However, the continuing development requirements for licensure renewal for both academic and T&I teachers have been similar. The current system appears to adequately serve the pre-service and in-service needs of academic teachers. However, differences in the subject matter, instructional setting, and backgrounds of T&I teachers require that a different approach to both pre-service preparation and in-service continuing development be initiated for T&I teachers. The following characteristics of T&I programs, delivery, and teachers should be considered in developing an appropriate teacher preparation system:

1. T&I subjects include both theory and skill development components,
2. Instruction in T&I subjects is often primarily delivered in a laboratory setting and may include an internship in a community setting,
3. Teachers of T&I subjects must maintain competence in pedagogy, technology of the subject, and applications of technology in the workplace,
4. Work experience in the occupation is desirable, and required for endorsement to teach T&I subjects, and
5. Many teachers of T&I subjects are recruited from business, industry, and the military.

Two additional factors must also be considered when evaluating the viability of the present system of T&I teacher preparation. First, colleges and universities in many States are reducing their commitment to field service activities because of resource constraints. Second, teacher shortages are increasing in many T&I subject areas and localities are recruiting individuals from business, industry, and the military to fill vacancies. These persons may or may not have baccalaureate degrees. Those who have baccalaureate degrees are infrequently graduates of teacher education programs, more often their degree is in a relevant technical area. Given these considerations, a new approach to the initial preparation and continuing professional development of T&I teachers is appropriate.

## Desired Characteristics

To best accommodate the needs of individuals desiring to become T&I teachers and the needs of the schools, the new system should incorporate the following characteristics:

1. Both pre-service and in-service teacher education should be available in a field based format,
2. An instructional unit and/or modular approach to instruction should be used when possible and appropriate,
3. A trainer of trainers approach to delivery of instruction should be used in order to utilize the expertise of master teachers in secondary settings,
4. A formal system of mentoring must be included to support the application of pedagogical theory in the classroom and laboratory,
5. Credit applicable toward formal degree requirements must be given for demonstrated technical expertise,
6. The system should involve collaboration among selected universities and colleges, community colleges, secondary vocational centers/programs, and business and industry.
7. Both pedagogical and technical skills should be included as required components of teacher preparation/licensure requirements, and
8. The system should provide for multiple levels/types of licensure and for add-on special endorsements.

## Clientele and Their Needs

Three groups exist among those preparing to be, or who currently are T&I teachers. Although all three have some common needs, especially with regard to continuing professional development, their initial needs are different.

### Graduates of Approved Teacher Education Programs

No major changes in the system of preparing students in approved teacher education programs is anticipated although additional field experience prior to graduation would be desirable. However, formal mentoring during the initial year or two of teaching would greatly facilitate the transition from being a student to being a teacher. The primary needs of the group following initial employment are for a system of continuing professional development that emphasizes technical and pedagogical up-dating and formal opportunities to intern in appropriate business and industry settings while being awarded credit applicable toward both licensure renewal and advanced degrees.

### Graduates of Appropriate Content Areas Without Teacher Preparation

While these individuals are often well prepared in the subject matter content, they are often without the pedagogical competence required to be effective in the classroom. Thus, the primary focus of the system should be to provide basic survival skills prior to entering the classroom, support through formal mentoring programs during their initial teaching experience, and broad general pedagogical competence. Once these initial needs have been met, this group's continuing professional development needs parallel those of graduates of approved teacher education programs. All activities required for initial and continuing licensure must be awarded credit applicable toward completion of a degree.

### Non-degreed Technicians, Practitioners, and Specialists

A large cohort of experienced technicians, practitioners, and specialists exists which has the technical competence and work experience required to become T&I teachers but which lack a baccalaureate degree. In some instances these persons may possess an associates degree but such is not generally the case. The initial needs of this group are for survival skills prior to entering the classroom and support through formal mentoring programs during their initial teaching experience. Having achieved those objectives the system must then provide a means to develop knowledge in the theoretical foundations of education, broad pedagogical competence, and the general education courses or competencies required to complete degree programs. All activities must carry academic credit applicable toward either an associates or baccalaureate degree. The continuing professional development needs of this group parallel those of the other two groups once these objectives have been met.

Regardless of the formal education background of the individual entering the profession, the goal of the system is to develop equally qualified and competent T&I teachers. Moreover, it is expected that all individuals without a degree will be required to actively pursue an associates degree and that those with an associates degree will be required to actively pursue a baccalaureate degree. All beginning teachers will be required to successfully complete a two to three year probationary period under a provisional certificate before being issued full and regular licensure.

## Proposed Licensure/Endorsement Changes

Changes to the system of licensing and endorsing all vocational teachers have been proposed. While little change is proposed for some service areas, rather radical change will be needed if the strategic plan for restructuring secondary T&I programs in Virginia is implemented. Several factors make this an opportune time to consider major revisions in the current system:

1. Projected shortages of teachers in many technical areas,
2. Increasing numbers of mid-life career changers and persons seeking a second career following retirement,
3. Increasing local control over program content and objectives,
4. Accelerating technological change,
5. Projections of a relatively large number of retirees from the current teacher cadre over the next five years, and
6. Current consideration of restructuring secondary vocational programs using a Career Families model.

The system presently in use tends to confound the issues of licensure and endorsement particularly as they apply to Health Occupations and Trade and Industrial teachers. Moreover, the present system focuses upon the route individuals follow to licensure and as a result includes inequities which tend to discourage professional development. This creates the perception that for some teachers, technological competence is more important than pedagogical competence or for some, just the opposite. The revisions recommended in this proposal are intended to address those issues and are based upon the following assumptions:

1. There are measurable levels of technological and pedagogical competence individuals must demonstrate before being allowed to enter the classroom,
2. Those minimum competencies are the same regardless of the route individuals follow to become licensed ( graduation from an approved teacher education program, degree without teacher education or non-degree but with technical expertise ),
3. A field-based system of delivering professional development services to pre-service and in-service teachers will be implemented,
4. Localities are best equipped to determine the exact type and level of technical expertise a prospective teacher needs based upon the objectives and clientele of the local program,
5. All new teachers should serve a probationary period during which they must demonstrate competence in the classroom before being issued a regular license, and
6. All teachers must continually up-date both their technological and pedagogical expertise to remain effective.

### Levels of Licensure

*Probationary License.* All new teachers will be issued a Probationary License. This license is non-renewable and must be up-graded in no more than three years. To qualify for a Probationary License the following requirements must be met:

1. Graduation from an appropriate approved teacher education program or appropriate technical competence as demonstrated through state or national licensure or certification in the technical area, passing a recognized technical exam, or appropriate portfolio,
2. Documented appropriate work experience in supervisory and/or instructional positions, and
3. Recommendation for licensure by the appropriate local administrator.

The probationary period may not be extended beyond three years and the Probationary License must be up-graded to a Professional License.

*Professional License.* The Professional License is issued for a period of five years and is renewable. This is the basic level of licensure. Requirements for initial issuance of the Professional License are:

1. Positive evaluation of technical competence and currency in technical area by supervisor and assigned mentor,
  2. Positive evaluation of pedagogical competence by supervisor and assigned mentor,
- Substantial progress toward an appropriate degree. For non-degreed individuals, progress toward an A.A.S. degree is required. Those already possessing the A.A.S. degree must show progress toward an appropriate Bachelors degree. Additional coursework or experiences claimed for credit should have demonstrated relevance to the career field.

Requirements for renewal of the Professional License are:

1. For the first renewal of the Professional License, the candidate must possess a minimum of an A.A.S. degree. Those candidates who possessed a bachelors or graduate degree upon entering the field the must complete 30 credits that will improve their technical and/or pedagogical competence. Candidates must be recommended for license renewal by their supervisor.
2. For subsequent renewal of the Professional License the candidate must show substantial progress toward an appropriate degree. For those without a bachelors degree, progress toward a bachelors degree is required. Those with a bachelors degree or higher must complete credits that will improve their technical and/or pedagogical competence. Candidates must be recommended for license renewal by their supervisor.

*Master License.* Only a small proportion of all teachers will achieve this level of licensure during their careers. Moreover, having been awarded this license does not guarantee that an individual will be reissued a Master License. Individuals holding a Master License will be used as teacher educators by the professional development academy and assigned as mentors to new teachers. The license must be renewed every five years. Requirements for initial issuance of the Master License are:

1. Minimum of a bachelors degree with a masters degree preferred,
2. Demonstrated superior competence in both pedagogy and technical area,
3. Successful completion of the master teacher preparation program conducted by the professional development academy, and
4. Positive recommendations from both their locality and staff of the professional development academy.

Requirements for renewal of the Master License are:

1. Demonstrated currency and superior competence in both pedagogy and their technical area,
2. Active and consistent involvement in the conduct of the professional development academy, and
3. Recommendations from both their locality and staff of the professional development academy that they be reissued a Master License.

### Endorsements

Two levels of endorsement are proposed with add-on endorsements available for specific purposes:

*General Cluster Endorsement.* General Cluster Endorsements are based upon clusters of occupations. These clusters might be configured within the present structure or developed based upon clusters which result from restructuring the present service areas into Career Families. Examples of clusters in the trade and industrial area are:

- Communication and Graphics
- Transportation
- Construction
- Engineering, Manufacturing and Maintenance
- Services

Requirements for General Cluster endorsement are:

1. Demonstrated technical expertise in the occupational cluster, either through formal education or broad work experience.
2. Documented work experience in the occupational cluster.

Individuals awarded a General Cluster Endorsement would be qualified to teach:

- Exploration and Orientation Programs
- Cluster level skill classes
- Cluster level technical classes

In general, they would teach those classes which prepare students to make decisions regarding future education or focus upon the skills and knowledges which provide the foundation for career/occupation specific education. A broad background in the skills and knowledges of an occupational cluster are more desirable than in-depth skills and knowledges in a single specialty for persons teaching these programs.

*Technical Specialty Endorsement.* Technical Specialty endorsements are occupation specific. Examples include:

- Auto Mechanic
- Cosmetologist
- Electrician
- Tool and Die Maker
- Welder



Requirements for the Technical Specialty endorsement are

1. Demonstrated expertise and proficiency in the specific occupation through State or National occupational licensure or certification, approved exams, or submission of a portfolio which demonstrates required competence, and
2. Documented work experience in all areas of the specific occupation beyond the novice level.

Individuals awarded a Technical Specialty endorsement would be qualified to teach those classes designed to prepare students for entry into a specific occupation or additional training for a specific occupation. In-depth knowledge and proficiency in the skills, knowledge and culture of the occupation are essential for teachers in these programs.

*Add-on Endorsements.* Add-on endorsements are used to certify the competence of individuals in specific functional areas. The requirements for these endorsements are largely academic but may include specified internships and/or work experience. Examples are:

- Administration and Supervision
- Career Counselor
- Special Education
- Site-Based Learning Coordinator

### **Summary**

The proposed revisions in the current professional development system for T&I teachers and those proposed in the current system of licensure and endorsement are closely related. Both grow out of the proposed restructuring of the delivery of T&I programs at the secondary level. A field-based approach to professional development must be implemented to support the proposed licensure/endorsement revisions. The revised approach would have several advantages over the present system including::

1. Licensure and endorsement of vocational teachers more closely aligns with procedures used in academic areas.
2. Licensure and Endorsement are distinctly separate.
3. Demonstrated and documented competence are the focus of both licensure and endorsement.
4. Localities can hire persons best qualified to teach cluster and/or specific occupational programs.
5. Continuing professional development of the teacher cadre is required and rewarded.
6. The establishment of a formal and continuing system of support for both new and veteran teachers with equal emphasis upon technological and pedagogical competence.
7. An accessible and articulated system of professional development.
8. Periodic review of teacher competence resulting in continued licensure, change in licensure, or loss of license.

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